

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for modifying the surface of an organofunctional substrate comprising reacting an organofunctional group of a silicon compound A with the surface of an organofunctional substrate to form a polar treated surface, wherein the silicon compound A comprises at least one organofunctional group and at least one chloro, alkoxy, carboxy or hydroxyl group, and further wherein said silicon compound A may react to form a polymer bearing silyl groups, then applying to the polar treated surface an organofunctional silicon compound B, wherein the silicon compounds A and B may be identical or different, the silicon compound B bears at least one chloro, alkoxy, carboxy or hydroxyl group, and the silicon compound B reacts with the polar treated surface, wherein the silicon compound A is crosslinked with itself by UV radiation.

Claims 2-3 (Cancelled).

Claim 4 (Original): The process as claimed in claim 1, wherein the organofunctional group of the silicon compound A is a linear, branched or cyclic alkyl group having from 1 to 20 carbon atoms and may optionally be substituted with a halogen or an alkenyl group having from 2 to 16 carbon atoms.

Claim 5 (Original): The process as claimed in claim 1, wherein the organofunctional group of silicon compound A is reacted with the surface of the organofunctional substrate by the addition of an acid or base, in the presence of a solvent, in the presence of a free radical generator or combinations thereof.

Claim 6 (Currently Amended): The process as claimed in claim-4-5, wherein the acid or base is selected from the group consisting of HCl, HNO<sub>3</sub>, HCOOH, CH<sub>3</sub>OOH, H<sub>3</sub>PO<sub>4</sub>, H<sub>2</sub>SO<sub>4</sub>, an amine, Na<sub>2</sub>CO<sub>3</sub>, NaOH, NH<sub>4</sub>Cl, CH<sub>3</sub>COONa, and CH<sub>3</sub>COONH<sub>4</sub>.

Claim 7 (Currently Amended): The process as claimed in claim-4-5, wherein said free radical generator is selected from the group consisting of di-tert-butyl peroxide, dicumyl peroxide, or di-benzoyl peroxide.

Claim 8 (Currently Amended): The process as claimed in claim 1, wherein a method used to apply the silicon compound B is ~~selected from the group consisting of~~ spraying, dipping, drenching, brushing, polishing, rolling, doctoring, CVD, ~~and or~~ PVD.

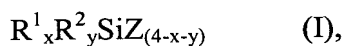
Claim 9 (Original): The process as claimed in claim 1, further comprising heat treating the organofunctional substrate after reacting the organofunctional group of the silicon compound A with the surface of the organofunctional substrate, after applying the organofunctional silicon compound B to the polar treated surface or both.

Claim 10 (Currently Amended): The process as claimed in claim 5 1, wherein the organofunctional substrate is heat treated from 80 to 120°C for from 0.5 to 2 hours after reacting the organofunctional group of the silicon compound A with the surface of the organofunctional substrate.

Claim 11 (Currently Amended): The process as claimed in claim 5 1, wherein the organofunctional substrate is heated from 100 to 200°C for from 0.5 to 2 hours after applying the organofunctional silicon compound B to the polar treated surface.

Claim 12 (Original): The process as claimed in claim 1, further comprising precleaning the organofunctional substrate by treating said organofunctional substrate with at least one acidic aqueous solution, basic aqueous solution, acid alcoholic solution or basic alcoholic solution.

Claim 13 (Currently Amended): The process as claimed in claim 1, wherein one or both of the silicon compounds A and B is an organosilane of the general formula I



wherein the groups  $R^1$  and  $R^2$  are identical or different, and each is a linear, branched, or cyclic alkyl group having from 1 to 20 carbon atoms, or a  $\omega$ -chloroalkyl,  $\omega$ -bromoalkyl,  $\omega$ -iodoalkyl,  $\omega$ -azidoalkyl,  $\omega$ -cyanoalkyl,  $\omega$ -cyanatoalkyl,  $\omega$ -isocyanatoalkyl, fluoroalkyl, perfluoroalkyl, alkenyl, aryl,  $\omega$ -acryloxyalkyl,  $\omega$ -methacryloxy alkyl, sulfane,  $\omega$ -mercaptoalkyl, sulfoxyalkyl,  $\omega$ -thiocyanatoalkyl,  $\omega$ -glycidylalkyl, epoxy alkyl, alkenyloxyalkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, carbonatoalkyl or a ureidoalkyl group, where each alkylene group contains from 1 to 6 carbon atoms, Z is a chloro, a methoxy, ethoxy, isopropoxy, 2-methoxyethoxy or acetoxy group, and x is 1, 2, or 3, and y is 0, 1, or 2, and  $(x+y) \leq 3$ , or an organosiloxane based on at least one organosilane of the general formula I, or ~~a mixture~~ mixture ~~thereof~~ of said organofunctional silicon compounds.

Claim 14 (Original): The process as claimed in claim 1, wherein one or both of silicon compounds A and B is present in monomeric, oligomeric, cocondensed, dissolved, emulsified, or suspended form.

Claim 15 (Original): The process as claimed in claim 1, wherein the organofunctional substrate comprises a plastic, a composition or a natural substance.

Claim 16 (Original): The process as claimed in claim 1, wherein the organofunctional substrate is selected from the group consisting of polyethylene, polypropylene, polyamide, polyester, polyacrylate, polyurethane, polystyrene, polycarbonate, polyvinyl chloride, polyethylene terephthalate, silicone, melamine resin, carbon fiber, furan resin, alkyd resin, bismaleimidetriazine resin, ethylene-vinyl acetate copolymer, acrylonitrile-butadiene-styrene copolymer, wood and rubber.

Claim 17 (Original): A surface-modified substrate produced by the process as claimed in claim 1.

Claim 18 (Original): A product comprising a surface-modified substrate produced by the process as claimed in claim 1.

Claim 19 (Currently Amended): A process for repelling water, oil, dirt, dust, ~~or~~ paint, microorganisms or bacteria comprising incorporating a substrate obtained by the process as claimed in claim 1 as a coating on an article.

Claim 20 (New): A process for modifying the surface of an organofunctional substrate comprising reacting an organofunctional group of a silicon compound A with the surface of an organofunctional substrate to form a polar treated surface, wherein the silicon compound A comprises at least one organofunctional group and at least one chloro, alkoxy, carboxy or hydroxyl group, and further wherein said silicon compound A may react to form a polymer bearing silyl groups, then applying to the polar treated surface an organofunctional silicon compound B, wherein the silicon compounds A and B may be identical or different, the silicon compound B bears at least one chloro, alkoxy, carboxy or hydroxyl group, and the silicon compound B reacts with the polar treated surface,

wherein the organofunctional group of silicon compound A is reacted with the surface of the organofunctional substrate by the addition of an acid or base and in the presence of a free radical generator or a free radical generator and a solvent.

Claim 21 (New): The process as claimed in claim 20, wherein the organofunctional group of the silicon compound A is a linear, branched or cyclic alkyl group having from 1 to 20 carbon atoms and may optionally be substituted with a halogen or an alkenyl group having from 2 to 16 carbon atoms.

Claim 22 (New): The process as claimed in claim 20, wherein the acid or base is selected from the group consisting of HCl, HNO<sub>3</sub>, HCOOH, CH<sub>3</sub>COOH, H<sub>3</sub>PO<sub>4</sub>, H<sub>2</sub>SO<sub>4</sub>, an amine, Na<sub>2</sub>CO<sub>3</sub>, NaOH, NH<sub>4</sub>Cl, CH<sub>3</sub>COONa, and CH<sub>3</sub>COONH<sub>4</sub>.

Claim 23 (New): The process as claimed in claim 20, wherein said free radical generator is selected from the group consisting of di-tert-butyl peroxide, dicumyl peroxide, or di-benzoyl peroxide.

Claim 24 (New): The process as claimed in claim 20, wherein a method used to apply the silicon compound B is spraying, dipping, drenching, brushing, polishing, rolling, doctoring, CVD or PVD.

Claim 25 (New): The process as claimed in claim 20, further comprising heat treating the organofunctional substrate after reacting the organofunctional group of the silicon compound A with the surface of the organofunctional substrate, after applying the organofunctional silicon compound B to the polar treated surface or both.

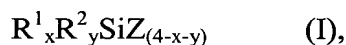
Claim 26 (New): The process as claimed in claim 20, wherein the organofunctional substrate is heat treated from 80 to 120°C for from 0.5 to 2 hours after reacting the organofunctional group of the silicon compound A with the surface of the organofunctional substrate.

Claim 27 (New): The process as claimed in claim 20, wherein the organofunctional substrate is heated from 100 to 200°C for from 0.5 to 2 hours after applying the organofunctional silicon compound B to the polar treated surface.

Claim 28 (New): The process as claimed in claim 20, further comprising precleaning the organofunctional substrate by treating said organofunctional substrate with at least one

acidic aqueous solution, basic aqueous solution, acid alcoholic solution or basic alcoholic solution.

Claim 29 (New): The process as claimed in claim 20, wherein one or both of the silicon compounds A and B is an organosilane of the general formula I



wherein the groups  $R^1$  and  $R^2$  are identical or different, and each is a linear, branched, or cyclic alkyl group having from 1 to 20 carbon atoms, a  $\omega$ -chloroalkyl,  $\omega$ -bromoalkyl,  $\omega$ -iodoalkyl,  $\omega$ -azidoalkyl,  $\omega$ -cyanoalkyl,  $\omega$ -cyanatoalkyl,  $\omega$ -isocyanatoalkyl, fluoroalkyl, perfluoroalkyl, alkenyl, aryl,  $\omega$ -acryloxyalkyl,  $\omega$ -methacryloxy alkyl, sulfane,  $\omega$ -mercaptoalkyl, sulfoxyalkyl,  $\omega$ -thiocyanatoalkyl,  $\omega$ -glycidyoxyalkyl, epoxy alkyl, alkenyloxyalkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, carbonatoalkyl or a ureidoalkyl group, where each alkylene group contains from 1 to 6 carbon atoms, Z is a chloro, a methoxy, ethoxy, isopropoxy, 2-methoxyethoxy or acetoxy group, and x is 1, 2, or 3, and y is 0, 1, or 2, and  $(x+y) \leq 3$ , an organosiloxane based on at least one organosilane of the general formula I, or mixtures thereof.

Claim 30 (New): The process as claimed in claim 20, wherein one or both of silicon compounds A and B is present in monomeric, oligomeric, cocondensed, dissolved, emulsified, or suspended form.

Claim 31 (New): The process as claimed in claim 20, wherein the organofunctional substrate comprises a plastic, a composition or a natural substance.

Claim 32 (New): The process as claimed in claim 20, wherein the organofunctional substrate is selected from the group consisting of polyethylene, polypropylene, polyamide, polyester, polyacrylate, polyurethane, polystyrene, polycarbonate, polyvinyl chloride, polyethylene terephthalate, silicone, melamine resin, carbon fiber, furan resin, alkyd resin, bismaleimidetriazine resin, ethylene-vinyl acetate copolymer, acrylonitrile-butadiene-styrene copolymer, wood and rubber.

Claim 33 (New): A surface-modified substrate produced by the process as claimed in claim 20.

Claim 34 (New): A product comprising a surface-modified substrate produced by the process as claimed in claim 20.

Claim 35 (New): A process for repelling water, oil, dirt, dust, paint, microorganisms or bacteria comprising incorporating a substrate obtained by the process as claimed in claim 20 as a coating on an article.